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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/641,519	08/21/2000	Kevin J. Ryan	M4065.0290/P290	8610

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EXAMINER

PEUGH, BRIAN R

ART UNIT PAPER NUMBER

2186

DATE MAILED: 09/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/641,519

Applicant(s)

RYAN, KEVIN J.

Examiner

Brian R. Peugh

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,13,14,17,22,23,25,35,36,39,44-46,49 and 54 is/are rejected.
- 7) ☒ Claim(s) 2,4-12,15,16,18-21,24,26-34,37,38,40-43,47,48 and 50-53 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 52 and 53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 52 recites the limitation "said predetermined edge" in lines 1 & 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 13, 14, 17, 22, 23, 25, 35, 36, 39, 44-46, 49, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee et al. (US# 5,638,529) and Leung (US# 6,415,353).

Regarding claims 1, 13, 23, 35, and 45, Yee et al. teaches a variable interval refreshing for system devices. Regarding Figure 3 and 4, Yee et al. recites a memory

Art Unit: 2186

DRAM composed of memory cells (col. 1, lines 18-20). Access commands for accessing data within the DRAM (54) are communicated to DRAM controller (53) via path (68) (col. 5, lines 38-49). Also, system devices 61a-61n may be volatile DRAM memories (col. 6, line 65 – col. 7, line 16). The flow chart of Figure 4 displays the steps for setting the refresh timer. Since system bus controller (56) passes commands to DRAM controller (53), on a hierarchical level, the system bus controller can be seen as controlling the DRAM controller. The system bus controller determines that a refresh cycle needs to occur according to a value returned from the memory refresh timer (57), which attempts refreshing at predetermined times (intervals) (col. 8, lines 16-27).

Regarding claims 3 and 25, Yee et al. teaches that a timer is set for the refreshing of memory devices (DRAM) (abs.). Thus, the refresh can occur at the predetermined time slot after the timer has become idle.

Regarding claims 14, 22, 36, 44, 46, and 54, Yee et al. teaches that commands are passed via path (68), as recited above. Thus, the path comprises a command bus.

Regarding claims 17, 39, and 49, since the system bus controller determines that a refresh cycle is needed, the system bus controller can be seen as a refresh controller.

The difference between the claimed subject matter and that of Yee et al. is that the claims recite that the refresh command is initiated at a predetermined time without

Art Unit: 2186

delaying a data access command. Leung teaches that even under the worst conditions, accesses to the DRAM banks are never delayed by refresh accesses (col. 12, lines 56-58). Therefore it would have been obvious to one of ordinary skill in the art having the teachings of Yee et al. and Leung before him at the time the invention was made to modify the DRAM accessing system of Yee et al. to include the refresh access conditions of Leung, because then transparent memory refreshing could occur that would not limit access frequencies, as taught by Leung.

Allowable Subject Matter

Claims 2, 4-12, 15, 16, 18-21, 24, 26-34, 37, 38, 40-43, 47, 48, and 50-53 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art describes related refreshing operations.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Peugh whose telephone number is 703-306-5843. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm. The examiner can also be reached on alternate Friday's.

Art Unit: 2186

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew M. Kim, can be reached on (703) 305-3821. The fax phone number for the organization where this application or proceeding is assigned is 703-746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.


MMK/BRP
September 4, 2002


MATTHEW KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100